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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,273	12/06/2001	Wu-Sung Kim	033494.001	3361

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EXAMINER

MUROMOTO JR, ROBERT H

ART UNIT PAPER NUMBER

3765

DATE MAILED: 06/18/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/683,273

Applicant(s)

KIM, WU-SUNG

Examiner

Robert H Muromoto, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12-6-01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The abstract of the disclosure is objected to because the recitation "The present invention...". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Middleton in view of Ardizzone and Lever.

Middleton teaches a breathable fabric for use in a wearable article. The fabric comprises thermally efficient layer of neoprene rubber sandwiched between a second layer of a permeable material capable of being worn next to the user's skin such as lightweight four way stretch cotton and a third layer also of a permeable material, such as a lightweight four-way stretch cotton for domestic use or a more durable nylon for industrial use. Any suitable external layer may be used as long as the wicking action of the perforations is not hampered.

The neoprene and inner layers are perforated in generally circular shape with a diameter of about .5mm to about 10mm. It is preferred that this fabric use more smaller

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perforations rather than fewer larger ones which can be adjusted for a particular end use.

Although Middleton teaches these limitations Middleton does not specifically teach an outer spandex layer, or that the neoprene layer be anti-bacterial and include bio-ceramics.

However Ardizzone teaches a therapeutic device that uses bio-ceramic fibers to take advantage of their far infrared wave emitting characteristics when heated to or above the body temperature of 98.6 degrees Fahrenheit. Recent developments have shown that human tissue is advantageously susceptible to light in the far infrared range. The waves serve to warm objects thermally when they come into contact with the waves.

Additionally, Lever teaches rubber articles and derivatives thereof such as neoprene that incorporate silver based antimicrobial compounds to provide rubber products with antibacterial, antifungal, antimildew, and odor control properties for the user.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the fabric of Middleton to include an anti-bacterial neoprene and bio-ceramics layer to provide the user with the anti-bacterial and therapeutic warming effects of such a neoprene and bio-ceramic layer.

With respect to the spandex layer limitation, the examiner considers a four way stretch cotton layer to be a structural and functional equivalent with the spandex layer of the present invention where a four way stretch cotton would provide the same function

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and without any disclosure as to why the use of spandex is materially critical to the invention it would have been obvious to one of ordinary art to use any lightweight stretch fabric for the outer layer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bullock teaches a breathable neoprene garment, Chung teaches a shoe that uses bioceramic material, and shin teaches a mouse pad that uses bioceramic and neoprene.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert H Muromoto, Jr. whose telephone number is 703-306-5503. The examiner can normally be reached on 8-530, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on 703-305-1025. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

bhm
June 12, 2003


JOHN D. CALVERT
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700